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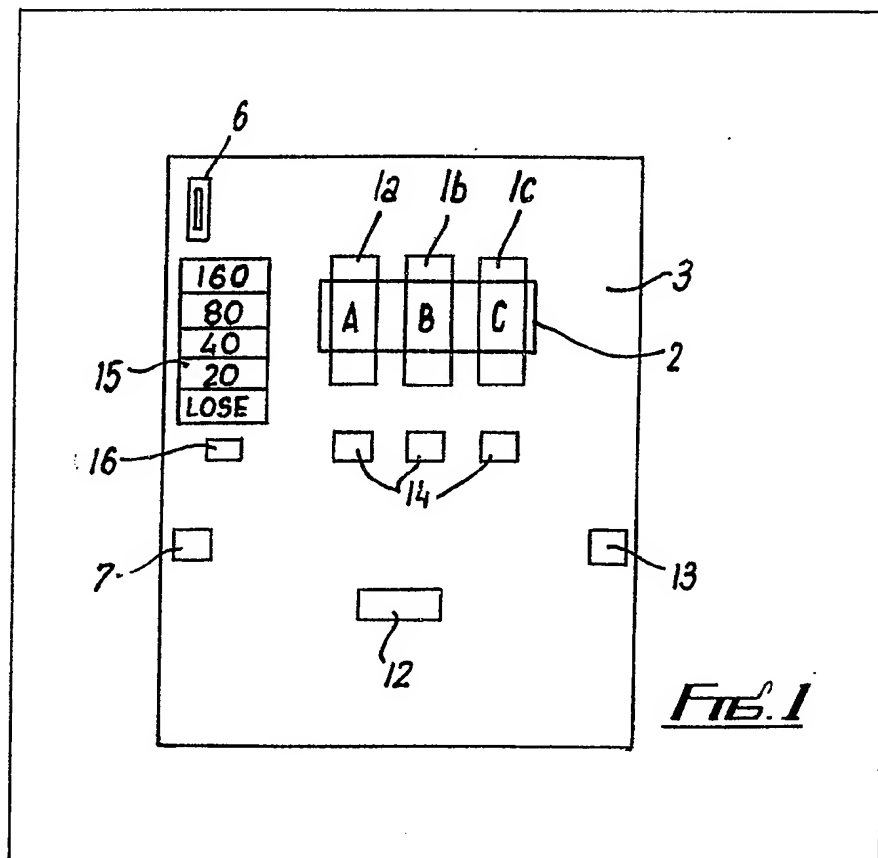
## (54) Entertainment machines

(57) A coin-operated entertainment machine such as a fruit machine is operated by a player to produce a displayed combination of symbols. When a winning combination is obtained a mechanism (10) is operated to give an appropriate pay-out, although first the player may be given the opportunity of changing the

pay-out by operation of a gamble device (16).

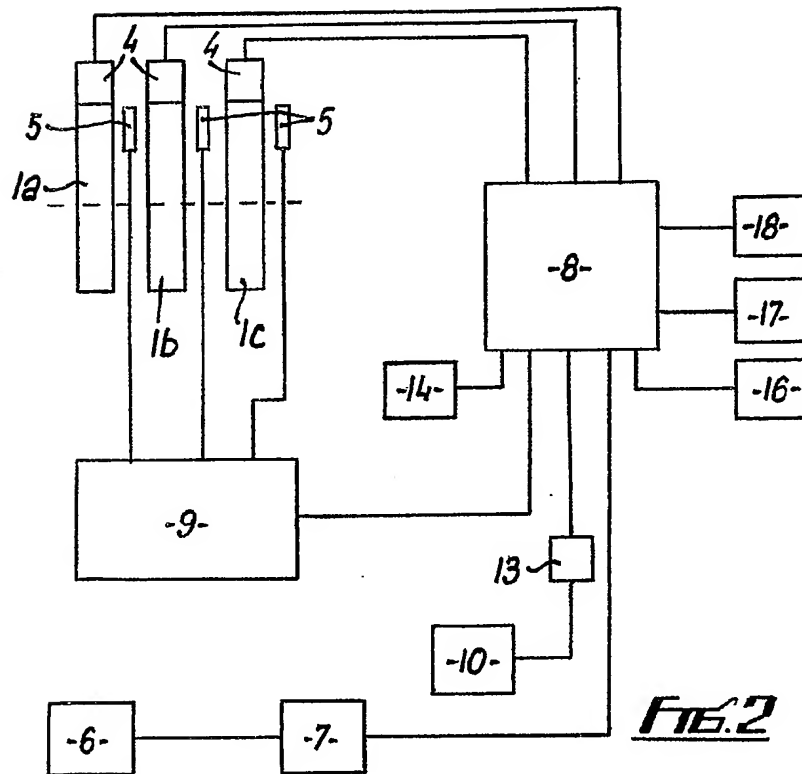
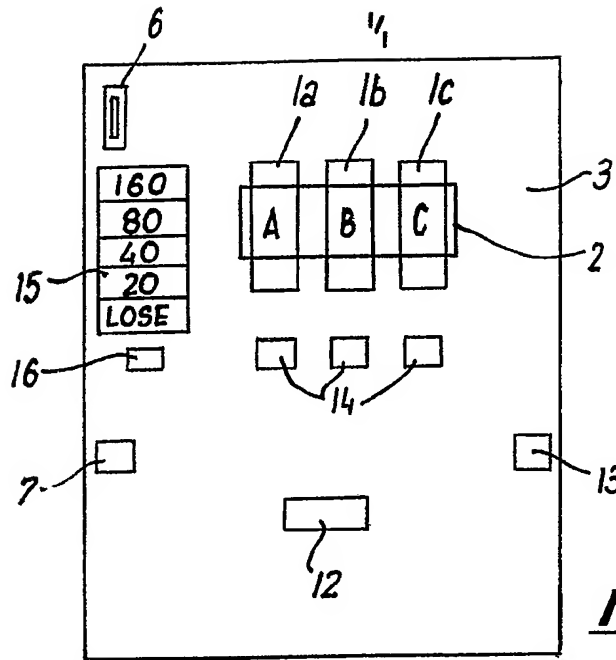
An adjustment mechanism (18) is also provided and this can operate in correspondence with the gamble device to change the displayed symbol combination to accord with the changed pay-out value.

Hold buttons (14) may be provided for holding the displayed symbols during a subsequent game.



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## SPECIFICATION

## Entertainment machines

This invention relates to coin or token-operated entertainment machines and is particularly  
 5 although not exclusively concerned with such machines of the kind known as fruit machines.

It is known to provide a fruit machine with a 'gamble' feature whereby, after attaining a win but before receiving a pay-out which corresponds to  
 10 such win, the player has the option of actuating a gamble device which operates on a random basis and can modify the payout by increasing or cancelling same. This feature advantageously contributes to the entertainment value of the machine.

An object of the present invention is to provide an improved gamble device capable of contributing yet further to the entertainment value of an entertainment machine.

20 According to the invention therefore there is provided a coin or token-operated entertainment machine comprising a plurality of main display regions, means operable to produce a display of one or more symbols at each said region, some  
 25 combinations of said displayed symbols being winning combinations and others being losing combinations, a pay-out mechanism operable to give a pay-out following a winning said combination, the value of the pay-out being different for different said winning combinations, a  
 30 gamble device operable after production of a winning combination to change the value of the pay-out, and an adjustment mechanism operable in correspondence with the gamble device to change the displayed symbol combination to  
 35 accord with the changed pay-out value.

With this arrangement, further entertainment value can be derived from the fact that the player can initiate change of the displayed symbol  
 40 combination at the same time as he gambles an attained win in the hope of obtaining an increase of pay-out value.

Moreover, yet further entertainment value can be derived with the machine of the invention in the case where player-operable hold controls are provided (as is common with fruit machines), which controls can be operated at the start of a game to hold existing displayed symbols at one or more of the said display regions against change  
 50 during the course of the ensuing game. That is, at the end of one game and following a win a player may be able to obtain an increased pay-out value by operation of the gamble device and the resulting corresponding change in the displayed symbol combination may carry forward to the next  
 55 game whereby if the hold facility is then made available the player may be able to hold some or all of the displayed symbols and thereby guarantee or increase the likelihood of again obtaining the increased pay-out value.

The gamble device and the adjustment mechanism may become available for operation on all winning occasions or only on some such occasions on a random or predetermined basis.

65 When so available preferably operation thereof is only effected when initiated by a player-operable control such as a press button.

Most preferably, the machine incorporates a gamble indicator which comprises an  
 70 arrangement of indications representative respectively of the different pay-out values obtainable with the machine and also a lost or nil pay-out representation, the appropriate such indication being illuminated after operation of the  
 75 gamble device to indicate the new pay-out value obtained.

The gamble device may be operable, preferably in a random manner, to select any of the pay-out values (including a nil pay-out) obtainable with the machine, or alternatively to select from a  
 80 predetermined limited range of such values. In one embodiment the gamble device is operable to select from two pay-out values respectively above and below that originally obtained. With this embodiment and where the above mentioned  
 85 gamble indicator is provided, advantageously the arrangement may be such that during availability of the gamble feature but before operation of the gamble device the selectable values above and below the originally-obtained value are illuminated  
 90 with flashing lights (as for example by alternate illumination thereof).

The gamble device may be operable once only per game or alternatively successive operations thereof may be permitted whereby the player can  
 95 try to attain successive increases in the pay-out value. In the latter case the gamble device may cease to be operable when the highest pay-out value is reached or following a decrease in the pay-out value.

Most preferably the machine of the invention is a fruit machine and the displayed symbols (which may be representation of fruit) are selected at random as by the rotation of reels (usually three or  
 105 four reels) having such symbols marked around the periphery thereof, or by the operation of a vdu display simulating such rotation of reels (as described in our co-pending British Application 24720/78), or by the random illumination of  
 110 symbols on areas of a display panel, or otherwise.

The invention will now be described further by way of example only and with reference to the accompanying drawings, in which:—

Fig. 1 is a diagrammatic representation of a front panel of one form of an entertainment  
 115 machine according to the present invention; and

Fig. 2 is a diagram showing operational components of the machine.

The machine is a fruit machine having three  
 120 reels 1a, 1b, 1c, which are rotatable within a housing behind a window 2 in a front panel 3 thereof. Each reel 1 has pictures of fruit (designated A, B, C) at 20 positions around the periphery of same, and rotation of each reel is initiated and also arrested by a solenoid device 4  
 125 having a pawl engageable with teeth around the edge of the reel. Actuation of the solenoid 4 causes the pawl to be withdrawn from engagement with the teeth and to cause the reel 1

to rotate freely, and deactuation of the solenoid causes the pawl to drop back into engagement with the teeth to arrest the reel in one of the 20 stopping positions thereof in which one of the

5 pictures of fruit on the periphery of same is in precise registration with the window 2. Each stopping position is identified by a respective coded arrangement of holes in a side wall of the reel and the codes are read by a bank of

10 photosensitive devices 5 which receive light from a light source or sources through the holes.  
In use, the machine is actuated by a player by insertion of one or more coins or tokens into a coin mechanism 6 and a starter button 7 is pressed to  
15 operate a control unit 8 which causes the three reels 1 to be set in rotation for different random periods of time. When the reels come to rest, the stopping positions thereof are identified by the photosensitive devices 5 in conjunction with data  
20 processing circuitry 9 and a win indication is produced which may enable a pay-out mechanism 10 to be actuated by a pay-out button 13 in the event that the identified stopping positions correspond to the display of a predetermined  
25 winning combination of fruit (say three fruit of the same kind) through the window 2.

Coins or tokens paid out are delivered to the player through an outlet 12.

In accordance with conventional practice, beneath each reel there is provided a respective  
30 hold button 14. At the start of some games, as selected on a random basis, the hold buttons 14 are made available for operation and when so operated by the player the or each pertaining reel is held against rotation during the course of the  
35 ensuing game.

At one side of the front panel 2 there is a gamble indicator 15 with a gamble button 16  
40 beneath same. The indicator comprises a series of marked indications constituting the different winning pay-out values which can be obtained with the machine (say 20, 40, 80, 160) and also a nil pay-out or lose indication. Whenever a win is obtained with the machine, the corresponding  
45 pay-out value is illuminated with steady light (by a respective bulb 17) on the indicator 15. At the same time, and as appropriate, indications above and below such value are alternately illuminated with flashing lights. The player now has the option  
50 of pressing the button 13 to obtain the pay-out corresponding to his win or of pressing the gamble button 16 whereupon one of the said above and below indications is selected at random (and is illuminated with steady light) and the player  
55 receives the corresponding new pay-out value (which will be greater or less than that originally indicated) if he now presses the pay-out button 13. The arrangement may be such that the above and below indications always constitute  
60 respectively that immediately above and that immediately below the original indication or, alternatively, that immediately above and the lose indication. In the latter case if the player gambles unsuccessfully he receives no pay-out. In the

65 former case an unsuccessful gamble may still result in a pay-out if the original indication is above the lowest actual pay-out value (i.e. above 20 in the drawing). The arrangement may be such that the player is only ever allowed one gamble  
70 per game. Alternatively, the player may be allowed successive gambles as long as such gambles are successful and until the highest pay-out value has been reached.

The gamble button is arranged also to operate a  
75 reel-position adjustment mechanism 18. After selection of a new pay-out value with the gamble button the mechanism 18 initiates adjustment of the positions of the reels 1 such that the displayed combination of symbols on the winning line  
80 changes from the original winning combination to a new combination corresponding to the new pay-out value. Thus, a winning combination of three like fruit may change to a winning combination of three other like fruit where an actual pay-out of  
85 greater or less value is obtained; and a winning combination of three like fruit may change to a losing combining of three different fruit where the player gambles unsuccessfully.

Thus, when using the gamble facility the player  
90 can derive additional entertainment value from the corresponding change in the displayed symbols. Moreover, it will be appreciated that a new symbol combination obtained as a consequence of use of the gamble button may carry forward to the start  
95 of the next game which may be advantageous to the player if the hold facility then becomes available. That is, in the next game the player may be provided with the opportunity of holding some or all of the symbols of a high value winning  
100 combination whereby guaranteeing or increasing the likelihood of a repeated high value pay-out.

Adjustment of the positions of the reels may be achieved in any suitable manner. This may involve  
105 spinning the reels and then stopping same when the sensors 5 detect occurrence (or imminence) of reel positions corresponding to the required new symbol combination. Alternatively, utilising knowledge of the sequence of symbols on the reels, the reels may be indexed through  
110 predetermined numbers of stopping positions.

It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

Thus, for example, as an alternative to the use of the solenoids 4 and the code-reading sensors 5 it is possible to use, for example, respective  
115 stepper motors for driving the respective reels, and a position detection system which responds to and counts stopping positions from datum points on the reels (defined for example by light sensitive devices which receive light through holes in the reels).

Moreover, as an alternative to the use of reels it  
125 is possible to use a vdu display which simulates the rotation of reels and in this case the gamble indicator may be displayed on a region of the vdu screen.

## CLAIMS

1. A coin or token-operated machine comprising a plurality of main display regions, means operable to produce a display of one or more symbols at each said region, some combinations of said displayed symbols being winning combinations and others being losing combinations, a pay-out mechanism operable to give a pay-out following a winning said combination, the value of the pay-out being different for different said winning combinations, a gamble device operable after production of a winning combination to change the value of the pay-out, and an adjustment mechanism operable in correspondence with the gamble device to change the displayed symbol combination to accord with the changed pay-out value.
2. A machine according to claim 1, wherein player-operable hold controls are provided, which controls can be operated at the start of a game to hold existing displayed symbols at one or more of the said display regions against change during the course of the ensuing game.
3. A machine according to claim 1 or 2, wherein the gamble device and the adjustment mechanism become available for operation only on some winning occasions.
4. A machine according to any one of claims 1 to 3, wherein said gamble device and adjustment mechanism, when available for operation, are arranged to operate only when initiated by a player-operable control.
5. A machine according to any one of claims 1

- to 4, including a gamble indicator which comprises an arrangement of indications representative respectively of the different pay-out values obtainable with the machine and also a lost or nil pay-out representation, the appropriate such indication being illuminated after operation of the gamble device to indicate the new pay-out value obtained.
6. A machine according to any one of claims 1 to 5, wherein the gamble device is operable to select from two pay-out values respectively above and below that originally obtained.
7. A machine according to claims 5 and 6, wherein the arrangement is such that during availability of the gamble feature but before operation of the gamble device the selectable values above and below the originally-obtained value are illuminated with flashing lights.
8. A machine according to any one of claims 1 to 7, which is a fruit machine and wherein the displayed symbols are selected at random by rotation of reels having such symbols marked around the periphery thereof.
9. A machine according to any one of claims 1 to 7, which is a fruit machine and wherein the displayed symbols are selected at random by the operation of a vdu display simulating the rotation of reels having such symbols marked around the periphery thereof.
10. A machine substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.